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AUTHOR Daniel, Larry G.
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ABSTRACT

The American Psychological Association (APA) has recently published the fifth edition of its "Publication Manual." This paper provides a brief overview of how this edition differs from previous editions and summarizes features of the new edition that will be likely to have an impact on social science research over the next several years. Both strengths and shortcomings of the Manual are noted. In spite of the general usefulness of the Manual, three shortcomings are noted. For instance, the fifth edition still uses poor models of language by not always making clear that reliability and validity are characteristics of data, or scores, and not of tests. It does give increased attention to reporting effect sizes but instructions for presenting data in analysis of variance tables do not require that the author include a measure of effect size. The third weakness is that the example given for reporting regression result is limited to the presentation of regression coefficients. However, it is encouraging that the APA has become sensitive to the technological capabilities of the average author, and has, for example, created its guidelines for displaying equations that are consistent with the capabilities of most word processing programs. The APA is also paying attention to the larger discussion in the field about methodological reporting issues. The paper concludes that overall, the social scientist would benefit greatly from reading and adhering to the fifth edition of the APA "Publication Manual." A chart comparing five editions of the APA Manual is appended. (Contains 23 references.) (SLD)

Running head: CHANGES IN THE APA *PUBLICATION MANUAL*

Changes in the APA *Publication Manual*:

How the New Fifth Edition Will Affect

Research Reporting in the Social Sciences

Larry G. Daniel

University of North Florida

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Abstract

The American Psychological Association has recently published the fifth edition of its *Publication Manual*. The present paper provides a brief overview of how this edition differs from previous editions and summarizes features of the new edition that will be likely to have an impact on social science research over the next several years. Both strengths and shortcomings of the manual are noted.

Changes in the APA Publication Manual:

How the New Fifth Edition Will Affect Research Reporting in the Social Sciences

One of the challenges for researchers in the social sciences is staying current in their fields of study. Several decades ago, Noland (1970) noted the difficulty of staying current, arguing that the social sciences literature was scattered throughout a variety of publication outlets. If staying current was a problem then, it is certain that today's technological advancements (e.g., creation of Internet-based materials), in addition to a general knowledge explosion within the social sciences, make currency a challenge for even the most astute of scholars. Researchers are also faced with changes in social policy that affect their ability to work with human subjects and regular shifts in the issues that are deemed worthy of research and/or for which external research funding is available. Finally, researchers must stay current with changes in research reporting and writing conventions. These changes may be as minimal as shifts in preferred terminology used within a given field or as sweeping as requirements that older vague or misleading language be replaced with more methodologically accurate language so as to avoid miscommunication or misunderstandings about research.

Evolvement of the APA Publication Manual

Recently the American Psychological Association issued the fifth edition of its *Publication Manual* (APA, 2001b). The *Publication Manual* has an interesting history dating back to two early *Psychological Bulletin* articles (Anderson & Valentine, 1944; "Instructions," 1929) that established guiding principles for APA authors. The manual

itself appeared some years later, in its initial form, as a supplement within *Psychological Bulletin* (APA Council of Editors, 1952) and then as a stand-alone volume (APA Council of Editors, 1957). The 1957 manual was published in a revised edition a decade later (APA, 1967), and four additional updated editions of the manual have been subsequently published (APA, 1974, 1983, 1994, 2001b), one for every decade that has elapsed since the manual's inception. The *Publication Manual* has gradually increased both in girth—from 65 pages in the first (1967) edition to 208 in the third to 467 in the fifth—and in scope—from strict attention to formatting and referencing in earlier editions to a focus on “specificity and sensitivity” (p. xxiv) and socially correct language in the fourth edition and to firmer details about methodological considerations in the fifth edition. A comparison of various elements across the five editions of the *Publication Manual* is presented in Table 1.

INSERT TABLE 1 ABOUT HERE.

It is quite interesting that all but one of the five editions of the *Publication Manual* have added right at 70 pages of text to its predecessor. The exception to this rule was the fourth edition which was nearly 200 pages heavier than the third edition. This was due both to changes in the physical format of the fourth edition and to the fourth edition's considerably expanded content. Perhaps the two largest changes in the manual over time are related to (a) APA's sense of an expanded audience for the *Publication Manual* and (b) the increasing complexity of the social sciences both in scope and methodology.

The Challenge of Stylistic Change

As previously noted, changes in style preferences create challenges for scholars. APA (2001b, p. xxvi) has both acknowledged the problems inherent in stylistic changes and provided a rationale for making changes: "Changes in requirements for manuscript preparation may initially be inconvenient and frustrating to authors submitting papers. Some changes arise because of changes in APA policy, in production technology, in the economy, or in the state of science."

Obviously, one may argue that tightened conventions regarding language usage and research reporting requirements are neither merited nor necessary. Some, for example, have suggested that requirements of this type border on policing of thought, noting that research that is poorly written will naturally be less likely to get into publication than will better written research. Conversely, others see the need for higher standards for research reporting such that analytical results clearly show what they are intended to, arguing that the field as a whole has had standards inadequate for assuring that research would regularly be of adequately high quality. At any rate, it has become commonplace for scholars and scholarly organizations to take a leadership role in ensuring that scholarship attains to high methodological standards, and the field should only expect that, as publication standards are modified, many organizations will take a firmer hand in assuring methodological purity of the research they sanction via publication and/or funding.

APA has made gallant efforts to assure that authors will comply with appropriate stylistic elements, including creation of a website specific to APA style issues

(<http://www.apastyle.org>), to which users may subscribe to obtain regular updates in APA style (<http://www.apastyle.org/email.html>), and the development of excellent training materials (Gelfand & Walker, 2001a, 2001b) to assist students in the social sciences in becoming familiar with APA style. In addition to materials available from APA are a host of helpful volumes from other sources designed to assist the emerging social scientist with the research and writing process (e.g., Pyrczak & Bruce, 2000; Leedy & Ormrod, 2001; Rosnow & Rosnow, 1998; Smyth, 1996).

Periodic changes in the APA *Publication Manual* have the potential for affecting a large portion of the research in the social sciences. According to APA's own publicity materials (<http://www.apa.org/books/4200060.html>), APA is now the publication standard in at least six disciplines other than psychology, including "psychology, sociology, business, economics, nursing, social work, and justice administration" (APA, 2001a).

The Fifth Edition

The fifth edition of the *Publication Manual* (APA, 2001b) is a useful tool for students, practitioners, and researchers in the social sciences. Changes in the format from the fourth edition, especially those changes involving methodological and statistical issues, have the potential for improving the quality of research in psychology and other disciplines.

Key Elements and Ideas

Like its predecessors, the fifth edition includes extremely useful general information about writing in the social sciences. Because the general tone of the

Publication Manual remains descriptive rather than prescriptive, it holds that researchers who incorporate the principles of APA style into their writing "will express their ideas in a form and a style both accepted by and familiar to a broad, established readership in psychology [and other related disciplines]" (APA, 2001b, p. xxiii). Readers unfamiliar with APA style considerations or those needing to refresh their knowledge of the same would be wise to review the chapters on content and organization of a manuscript, expressing ideas/reducing bias, APA editorial style, reference lists, and manuscript preparation (Chapters 1-5).

Section 1.04 ("Types of Articles") is particularly useful for the neophyte social scientist who is just beginning to understand the nature of the literature. The 6-category typology of journal articles (i.e., reports of empirical studies, review articles, theoretical articles, methodological articles, case studies, and other) as described in the manual serves as an excellent schema for understanding scholarship. The latter three categories (methodological articles, case studies, and other) are nice additions to the already meaningful first three categories which were delineated in the fourth edition. Likewise, the fifth edition's sections on scholarly ethics, the parts of a manuscript, referencing of cited material, and correct formatting of tables and figures are equally utile for the graduate student and the seasoned scholar.

Specific Changes in the Fifth Edition

Statistical Presentation (Section 1.10)

The fifth edition's information on presentation of statistical material builds on the content of the same section as specified in the fourth edition and also makes

references to recent calls for improved reporting of statistical results (e.g., Wilkinson & Task Force on Statistical Inference, 1999). The manual advocates the reporting of "informationally adequate [descriptive] statistics" (APA, 2001b, p. 23), including the reporting of the following "minimally adequate statistics" for multivariable analyses:

means(s), sample size(s), and the variance-covariance (or correlation) matrix or matrices. . . . For correlational analyses . . . the sample size and variance-covariance (or correlation) matrix are needed, accompanied by other information specific to the procedure used (e.g., variable means, reliabilities, hypothesized structural models, and other parameters).

These informational statistics should be appropriately precise so as to make comparisons of values meaningful, although it is important, as noted by Rosnow and Rosnow (1998, p. 52), that authors also avoid "false precision" (e.g., use of multiple decimal places for reporting data that are collected imprecisely) and "needless precision" (e.g., use of multiple decimal places when meaningful data interpretations do not require that level of precision). While the statistical requirements noted in the fifth edition could clearly have been stated more directly and strongly—see criticism by Onwuegbuzie, Daniel, and Roberts (2001, p. 5) regarding limits of the fifth edition requirements—it is nevertheless clear that the fifth edition's calls for information that will allow readers of research to make better judgments about the adequacy of findings are a step in the right direction.

Specific guidelines are also provided in the fifth edition of the *Publication Manual* for reporting the results of statistical significance tests, the statistical power of tests, and

statistical effect sizes. In regard to statistical power, the manual notes, "you should routinely provide evidence that your study has sufficient power to detect effects of substantive interest" (p. 24)

Regarding tests of statistical significance, the fifth edition includes several new guidelines: (a) preference that the exact value of p -calculated be reported as opposed to a p less than alpha conclusion (e.g., $p = .036$ rather than $p < .05$), so as to allow for those researchers who disfavor *a priori* p -critical determinations; (b) strong recommendation that confidence intervals be reported along with parameter estimates; and (c) strong suggestion that effect sizes be reported along with findings of statistical significance tests.

Regarding item (c) above (effect size reporting), the fifth edition includes a slight step up in the language of the fourth edition, which merely "encouraged" reporting of effect size estimates. Consistent with a call for more meaningful reporting of statistical results (e.g., Kirk, 2001), the fifth edition leans toward an imperative for reporting of statistical effects:

it is almost always necessary to include some index of effect size or strength of relationship in your Results section. You can estimate the magnitude of effect or the strength of relationship with a number of common effect size estimates, including (but not limited to) r^2 , η^2 , ω^2 , Cramers V , Kendall's W , Cohen's d and κ , Goodman-Kruskal's λ and γ , Jacobson and Truax's (1991) and Kendall's (1999) proposed measures of clinical significance, and the multivariate Roy's Θ and the Pillai-Bartlett V . (pp. 25-26)

Coming Full Circle—The Hanging Indent

To the chagrin of those *Publication Manual* users who have lived through several editions of the manual, the fifth edition has returned to the convention of the hanging indent for the first line of each reference in the reference list (as was used in the third edition), as opposed to the paragraph style indent used in the fourth edition. Although some prefer the look of the hanging-indented reference list, this one is sure to cause confusion until such a time as users make the full transition to the fifth edition. Consequently, it is nice to see that the new edition allows for exceptions to this rule, so long as a consistent format is used throughout a manuscript: "If a hanging indent is difficult to accomplish with your word-processing program, it is permissible to indent your references with paragraph indents" (p. 299).

Participants versus Subjects (Sections 1.09, 2.12)

As was true in the fourth edition, the fifth edition includes guidelines delineating when the term "participants" is preferred over "subjects," with the former identifying and crediting persons a study for what they have done, and the latter identifying persons (or other studied entities) for purposes of statistical reporting. Though the wording in the fifth edition is only minimally different in these sections, it is at least a little clearer. For example (p. 65):

Write about the people in your study in a way that acknowledges their participation. Replace the impersonal term *subjects* with a more descriptive term when possible and appropriate—*participants, individuals, college students, children, or respondents*, for example. *Subjects* and *sample* are appropriate

when discussing statistics, and *subjects* may also be appropriate when there has been no direct consent by the individual involved in the study (e.g., infants or some individuals with severe brain damage or dementia).

Despite this attempt to provide differentiation in terminology, it is quite possible that some descriptions of persons' participation in a study will include statistics, making the decision as to which term (subjects or participants) to use not as clear cut as would be desirable.

Lingering Problems with the Manual

Despite the general usefulness of the manual in its fifth edition, it is not without its shortcomings. Although various problems could potentially be pointed out, I will limit my comments to three such issues, all of which are methodological in nature. First, it has often been pointed out (e.g., Thompson & Vacha-Haase) that measurement characteristics, such as validity and reliability, are characteristics of data, or scores, and not of test instruments. Nevertheless, it is also common that researchers misunderstand the nature of score characteristics, making statements such as, "This is a reliable test." It is further interesting, despite great effort by APA and others to correct these common misperceptions about score characteristics, that the manual still utilizes poor models of language usage in this area. For example, in a list of questions the researcher might ask to judge the quality of a manuscript, the manual includes the following query: "Have the instruments been demonstrated to have satisfactory reliability and validity?" (p. 6). Second, despite the increased attention the manual gives to the importance of routine reporting of effect sizes, it is interesting that the

instructions for presenting data in analysis of variance (ANOVA) tables (p. 160) do not require that the author include any measure of effect size (e.g., η^2 , ω^2), even though these indices are relatively easy to compute given basic sum of squares and variance statistics. It is comforting, however to see that the ANOVA table provided in the manual as an example (p. 162) does include a column for eta (η) values. Finally, despite calls for interpretations of variable contributions in multiple regression analyses (and other similar correlational procedures) that honor the correlational logic of the technique (e.g., Courville & Thompson, 2001; Thompson & Borrello, 1985), it is discouraging to see that the example given for reporting regression results is limited to the presentation of regression (b and β) coefficients (p. 132).

Conclusion

The fifth edition of the *Publication Manual of the American Psychological Association* will have an impact on the scholarship of the social sciences for the next several years. It is important that those who use the manual understand its strengths as well as its limitations. It is encouraging that APA has become sensitive to the technological capabilities of the average author and is now making allowances for features such as the use of italics within manuscripts and has built its guidelines for displaying equations consistent with the equation editing capabilities available in today's word processing programs. It is also encouraging to see that APA is paying attention to the larger discussion in the field regarding methodological reporting issues. It is disheartening, however, to find that there are various inconsistencies in the manual that may lead to misperceptions. However, it would be unwise to rest the entire burden for

monitoring scholarship on one publication; hence, extreme criticism of the fifth edition is not justifiable. When accompanied by good tutelage from other sources and high standards for one's own research, the social scientist would benefit greatly from thorough reading of and strict adherence to the fifth edition of the *APA Publication Manual*.

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Table 1

Comparisons of Five Editions of the APA Manual

	First Edition (1952/1957/1967)	Second Edition (1974)	Third Edition (1983)	Fourth Edition (1994)	Fifth Edition (2001)
Pages	65 (61 + v)	136	208	400	467
New or Expanded Content Elements	Organization and Writing Writing Style Titles/Headings Tables and Figures References Manuscript Preparation	Expansion of Typing and Mailing Details Expanded Section on Statistics	Section on Authorship Ethics Attention to Standards for Bias-Free Language Increased Coverage of Tables and Figures Guidelines Included on Editorial Management and Journal Review Procedures	Extension of Bias-Free Guidelines to Include Sexual Orientation, Disabilities, and Age Increased Information on Ethical Considerations of Scholarship Guidelines for Referencing On-line and Other Electronic Sources New Appendices on Converting a Dissertation to a Manuscript and Submitting Electronic Copies of a Manuscript	Inclusion of Guidelines for Non-Empirical Studies Clarification of Ethical Issues; Updated Statistics Section Expanded Section on Referencing of Electronic Information
Changes in Scope	Focused on helping authors write for APA journals.	Included sections on dissertation/thesis writing. Addressed applicability of <i>Manual</i> to non-APA sources (including appended list of non-APA journals).	Focused on becoming a style manual sensitive to the needs of the field.	Committed to principles of "specificity and sensitivity" (p. xxvi)—appealing to the scholar who desires to be precise in describing research while minimizing bias and pejorative references in language.	Focused on the needs of a community of scholars that is diverse in methodological approaches and that requires scientifically accurate presentation of information.
Interesting Features	Detailed though succinct; simpler style than other popular guides of the day.	Increased eye appeal of copy (wider left margins); first edition of <i>Manual</i> to include a sample paper; increased examples and inclusion of appendices; edition was followed up with general style change sheet (1975) and nonsexist language style change sheet (1977).	Use of tighter margins; use of darkened tabs to highlight pages containing reference examples; inclusion of sexual bias information from 2 nd edition style change sheets, along with information on ethnic bias; overt statements that goal was to form guidelines based on descriptive use of language in the field, and not prescriptive preferences of editors.	Much larger volume; return to more eye-appealing, less technical-looking copy via use of wider margins, two color text, and larger font; colored tabs utilized to flag pages for various sections (not just references); inclusion of a larger number of checklists for assisting in preparation and submission of manuscripts; switch from hanging indent to "paragraph style" indent in reference list.	Reduction in font size from previous edition, along with larger top and bottom margins; other eye-appeal features largely unchanged; return to hanging indent format in reference list; incorporation of some of material previously shown in appendices into the text coupled with new appendices on ethical principles and legal materials.